

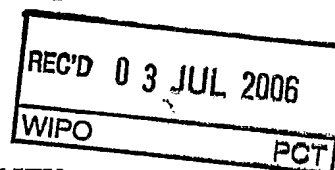
PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference SLRE.103401/	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/US04/26851	International filing date (day/month/year) 18 August 2004 (18.08.2004)	Priority date (day/month/year) 22 August 2003 (22.08.2003)
International Patent Classification (IPC) or national classification and IPC IPC: Please See Continuation Sheet USPC: 504/241,284,297,321,323		
Applicant STOLLER ENTERPRISES, INC.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☐ (sent to the applicant and to the International Bureau) a total of 0 sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 04 March 2005 (04.03.2005)	Date of completion of this report 16 June 2006 (16.06.2006)
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer S. Mark Clardy Telephone No. 571-272-1600

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/26851

Box No. I Basis of the report

1. With regard to the **language**, this report is based on:
 - ☒ the international application in the language in which it was filed.
 - ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
 - ☒ the international application as originally filed/furnished
 - ☒ the description:
 - pages 1-40 _____ as originally filed/furnished
 - pages* NONE received by this Authority on _____
 - pages* NONE received by this Authority on _____
 - ☒ the claims:
 - pages 41-49 _____ as originally filed/furnished
 - pages* NONE as amended (together with any statement) under Article 19
 - pages* NONE received by this Authority on _____
 - pages* NONE received by this Authority on _____
 - ☒ the drawings:
 - pages 1-18 _____ as originally filed/furnished
 - pages* NONE received by this Authority on _____
 - pages* NONE received by this Authority on _____
 - ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages _____
 - ☐ the claims, Nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to the sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages _____
 - ☐ the claims, Nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/26851**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims <u>1-77</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-77</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-77</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)

Claims 1-77 lack an inventive step under PCT Article 33(3) as being obvious over Coenen et al. (*Trends in Plant Science*, 2(9):351-356), Mohr et al. (*Plant Physiology*, P. 383-408), Bernier et al (*The Plant Cell*, 5:1147-1155), and Lin et al (US 6,361,999).

Coenen et al teach that auxin-cytokinin interactions in plants control many aspects of growth and differentiation (abstract) and that increases in one affect the concentration of the other (p 351-352; Figure 2). The two hormones affect cell cycle control (p. 353-354).

Mohr et al teach the effects of various known plant hormones including auxin (p. 386-389), gibberellins (389-393), and cytokinins (393-395), among others. Each of these is involved in growth characteristics of plants such as growth of roots, internode length, top growth, and plant structure.

Bernier et al teach that, in addition to their effects on plant growth, cytokinin and auxin each have an effect on flowering (p. 1149-1150), thus control of these two hormones would have a controlling effect on flowering, as well as plant growth characteristics.

Lin et al teach the utility of applying analogs (see figures 2-7 and columns 3-4) of plant hormones such as auxin and cytokinins (col 1) to plants (including seeds: col 6, lines 65-67) for controlling plant growth. The effects of varying the ratio of cytokinin and auxin in potato and tobacco is also discussed (columns 8-9).

One of ordinary skill in the art would be motivated to combine these references in order to determine the known effects of plant hormones, in particular auxin and cytokinin, and how they interact to affect plant growth and physiology.

Thus it would have been *prima facie* obvious to the ordinary artisan at the time the invention was made to have applied plant hormones such as auxins, cytokinins, and gibberellins to plants because the prior art discloses that exogenous application of these hormones may be used to control various aspects of plant growth, including top growth, internode length, plant structure, and flowering. Determination of appropriate application rates is within the skill level of the ordinary artisan.

Claims 1-77 meet the criteria set out in PCT Article 33(4), and thus possess industrial applicability because the subject matter claimed can be made or used in industry.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Continuation of IPC:

A01N 37/10(2006.01),43/12(2006.01),43/38(2006.01),43/90(2006.01);A01P 21/00(2006.01)